What is claimed is:

1. A method for manufacturing a nanowire, the method comprising:

forming a conductive metal particle on an insulating substrate; and

introducing a germanium-containing gas to the conductive metal particle and growing a germanium nanowire extending from the conductive metal particle.

2. The method of claim 1, further comprising:

heating the insulating substrate, prior to introducing a germanium-containing gas.

3. The method of claim 1, further comprising introducing a co-flow of gas including hydrogen to the conductive metal particle while growing the germanium nanowire.

4. The method of claim 1, wherein forming a conductive metal particle includes forming at least one of: gold, a highly-conductive metal particle and a conductive metal particle having a eutectic phase in alignment with germanium.

5. A method of manufacturing a germanium nanowire, the method comprising:

patterning at least one region having gold on an insulating substrate;

placing the insulating substrate into a CVD chamber and heating the substrate; and

introducing a germanium-containing gas and hydrogen to the heated substrate and growing at least one germanium nanowire extending from the at least one patterned gold region.

6. The method of claim 5, wherein patterning at least one region having gold on an insulating substrate includes patterning at least one gold cluster.

7. The method of claim 5, wherein patterning at least one region having gold on an insulating substrate includes patterning at least one island of gold particles.

8. The method of claim 7, wherein patterning at least one island of gold particles includes patterning an island having a diameter of about 20 nanometers.

9. The method of claim 5, wherein placing the insulating substrate in a CVD chamber and heating the substrate includes sufficiently heating the substrate to cause the germanium-containing gas to dissolve in the patterned gold.

10. The method of claim 9, wherein sufficiently heating the substrate includes heating the substrate to about 250 degrees Celsius.

11. The method of claim 9, wherein sufficiently heating the substrate includes heating the substrate to at least about 275 degrees Celsius.

12. The method of claim 9, wherein sufficiently heating the substrate includes heating the substrate to about the eutectic temperature of an alloy formed including the germanium and gold.

13. The method of claim 12, wherein sufficiently heating the substrate includes heating the substrate to about 360 degrees Celsius.

14. The method of claim 9, wherein sufficiently heating the substrate includes heating the substrate to less than about 600 degrees Celsius.

15. The method of claim 9, wherein patterning at least one region having gold includes patterning the region sufficiently small such that the melting temperature of an alloy including the gold and germanium is below the eutectic temperature of about 360 degrees Celsius.

16. The method of claim 15, wherein sufficiently heating the substrate includes heating the substrate to between about 275 degrees Celsius and 300 degrees Celsius.

17. The method of claim 5, wherein introducing hydrogen to the heated substrate includes introducing a sufficient amount of hydrogen and inhibiting decomposition of the germanium-containing gas.

18. The method of claim 5, wherein growing at least one germanium nanowire includes forming an alloy including germanium and gold and precipitating a germanium nanowire from the alloy.

19. The method of claim 5, wherein growing at least one germanium nanowire extending from the at least one patterned gold region includes growing the nanowire extending to the substrate and lifting off the gold particle from the substrate via the nanowire growth.

20. The method of claim 5, wherein growing at least one germanium nanowire includes using a seeded vapor-liquid-solid mechanism via the gold.

21. A germanium nanowire manufactured in a manner not inconsistent with claim 5.

22. An electronic circuit comprising the germanium nanowire of claim 21.

23. A method for manufacturing a germanium-containing nanowire, the method comprising:

dissolving germanium in a gold particle and forming an alloy including germanium and gold;

introducing germanium to the alloy, increasing the concentration of germanium in the alloy and liquefying the alloy; and

after liquefying the alloy, further introducing germanium to the alloy and supersaturating the alloy with germanium; and

precipitating the supersaturated alloy and growing a germanium-containing nanowire.

24. An electronic circuit comprising:

a germanium nanowire manufactured in a manner not inconsistent with claim 23.

25. An arrangement for growing a germanium nanowire from an insulating substrate having a patterned gold region thereon, the arrangement comprising:

means for heating the substrate; and

means for introducing a germanium-containing gas to the heated substrate and growing at least one germanium nanowire extending from the patterned gold region.

26. A method for manufacturing a nanowire, the method comprising:

forming a conductive metal particle on an insulating substrate; and

introducing a gas including semiconducting material to the conductive metal particle and forming an alloy including the semiconducting material and the conductive metal particle and growing a nanowire extending from the alloy, the nanowire including said semiconducting material.